DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

OPEN-FILE REPORT OF 77-76 MAP--B
Mineral resource, geological, and geophysical maps of the New River Gorge area, Fayette, Raleigh, and Summers Counties, West Virginia

STRUCTURAL FEATURES

The New River Gorge area is situated in the east-central part of the Appalachian Basin where exposed sedimentary rocks are relatively flat lying and commonly exhibit a regional dip of less than 2° to the northwest. This regional structural attitude is modified by several minor flexures within the area and by several larger structures in nearby areas (see index map). Structure contour lines drawn at the base of the Fire Creek coal bed show that the structural complexity increases southeastward toward the Appalachian folded belt. The strata in the northwestern part of the Gorge area, in portions of the Gauley Bridge, Fayetteville, and Prince quadrangles, have a minimum regional dip of about 40 feet per mile (9.3 m./km.). Southeastward in the Thurmond quadrangle, this dip increases to about 5° or 480 feet per mile (91 m./km.) on the western limb of the Mann Mountain anticline. Strata in the southern part of the Gorge area are gently folded, and several flexures including the Lawton and Springdale synclines and three unnamed anticlines extend into the area. These folds and the Dunn anticline, located immediately to the southeast of the Gorge area, strike northeastward parallel to the Appalachian folded belt. Total structural relief, indicated by the contour lines drawn on the Fire Creek coal bed, is about 3,480 feet (1,061 m.) in the Gorge area. The maximum structural elevation occurs in the Hinton quadrangle where the projected horizon of the Fire Creek coal bed lies above the ground surface at an elevation of slightly greater than 3,520 feet (1,073 m.) above sea level. The lowest structural point on the same datum lies in the subsurface in the extreme northwestern part of the Gorge area at an elevation of approximately 30 feet (24 m.) above sea level.

Faulting in the Gorge area consists of a few small normal faults of insufficient displacement and extent to show at the map scale.

EXPLANATION

STRUCTURE CONTOURS

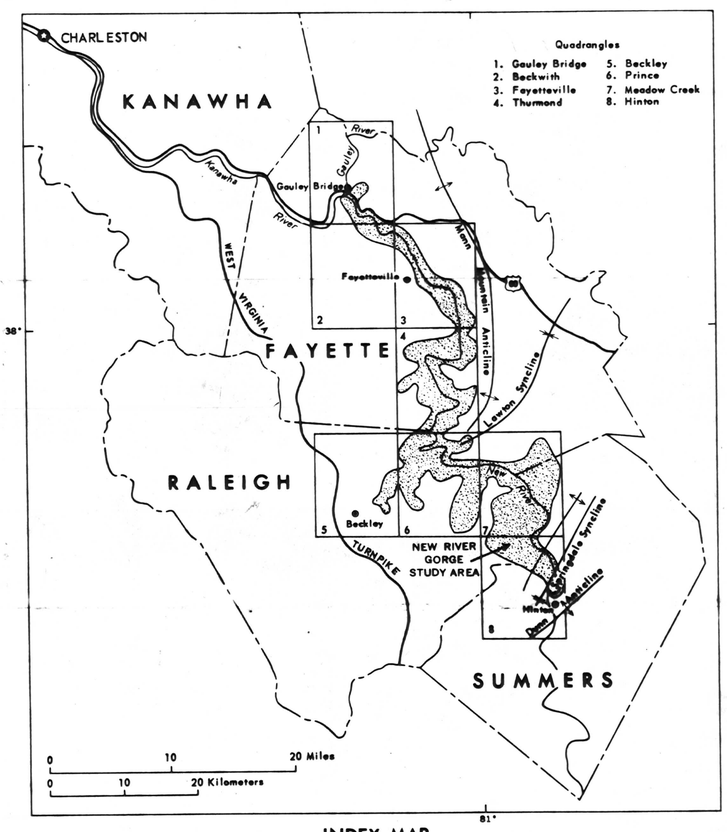
Drawn on base of Fire Creek coal bed or on a correlative horizon where coal is absent. Dashed where projected from other beds. Arrow indicates direction of dip. Contour interval 40 feet.

ANTICLINE

Showing position of crestline. Dashed where approximately located.

SYNCLINE

Showing position of troughline. Dashed where approximately located.



INDEX MAP

U.S. Geological Survey

OPEN-FILE REPORT OF 77-76 MAP--B

This report is preliminary and has not been edited or reviewed for conformity with Geological Survey standards or nomenclature

SCALE 1:50 000
1 ½ 0 1 2 3 4 5 MILES
1 .5 0 1 2 3 4 5 6 7 KILOMETRES
CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL

STRUCTURE CONTOUR MAP OF COAL BEARING ROCKS OF THE NEW RIVER GORGE AREA, FAYETTE, RALEIGH, AND SUMMERS COUNTIES, WEST VIRGINIA

By

T. W. Henry, R.C. Warlow, J.F. Windolph, Jr., C.R. Meissner, Jr., K.J. Englund, and H.H. Arndt

1977

Interior—Geological Survey, Reston, Va.—1977